METALLIC ALLOY NANOCOMPOSITE FOR HIGH-TEMPERATURE STRUCTURAL COMPONENTS AND METHODS OF MAKING

ABSTRACT OF INVENTION

[0035] A nanocomposite comprising a plurality of nanoparticles dispersed in a metallic alloy matrix, and a structural component formed from such a nanocomposite. The metallic matrix comprises at least one of a nickel-based alloy and an iron-based alloy. The nanocomposite contains a higher volume fraction of nanoparticle dispersoids than those presently available. The structural component include those used in hot gas path assemblies, such as steam turbines, gas turbines, and aircraft turbine. A method of making such nanocomposites is also disclosed.